Complete Summary

GUIDELINE TITLE

Nursing management of pressure ulcers in adults.

BIBLIOGRAPHIC SOURCE(S)

Singapore Ministry of Health. Nursing management of pressure ulcers in adults. Singapore: Singapore Ministry of Health; 2001 Dec. 27 p. [20 references]

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Pressure ulcers

GUIDELINE CATEGORY

Evaluation
Management

CLINICAL SPECIALTY

Nursing

INTENDED USERS

Advanced Practice Nurses
Nurses

GUIDELINE OBJECTIVE(S)

- To enhance appropriateness, effectiveness and efficiency of care of adults with pressure ulcers
- To reduce unacceptable variation in clinical practice

TARGET POPULATION

Adults in Singapore with pressure ulcers

INTERVENTIONS AND PRACTICES CONSIDERED

Assessment

1. Initial assessment and documentation of wound characteristics
2. Staging of the wound, using the National Pressure Ulcers Advisory Panel four-level staging system
3. Assessment of nutritional status
4. Assessment of psychosocial factors that may influence treatment options
5. Patient and caregiver education
6. Pain assessment

Treatment

1. Selection and implementation of appropriate cleansing (e.g., use normal saline) and debridement techniques (sharp versus autolytic)
2. Application of dressings, based on whether the wound is moist, granulating, exudative, sloughy, or eschar-covered. Types of dressing considered include hydrocolloid or other nonadherent dressing, alginate, foam/hydrofibre, or hydropolymer dressings, and polyurethane film
3. Implementation of appropriate medical nutritional therapy
4. Provision of effective pain alleviation and comfort measures

MAJOR OUTCOMES CONSIDERED

- Wound healing rate
- Morbidity and mortality associated with pressure ulcers

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Two evidence-based guidelines were reviewed:

- The Agency of Healthcare Research and Quality (AHRQ) Practice Guideline on Pressure Ulcer Treatment: Technical Report Number 15 Treating Pressure Ulcers Volume 1 (Bergstrom and Cuddigan 1994).

- Pressure Sores – Part II: Management of Pressure Related Tissue Damage from The Joanna Briggs Institute for Evidence Based Nursing & Midwifery (JBI 1997).

The electronic databases (MEDLINE, EMBASE, Cochrane Library, SPRINGNET and CINAHL) and hard copies of relevant journals (Journal of Wound Care, Advances in Wound Care, Current Problems in Surgery, Resources in Wound Care Management Directory) were searched.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Individual Study Validity Ratings

++

All or most of the criteria have been fulfilled. Where they have not been fulfilled the conclusions of the study or review are thought very unlikely to alter.

+

Some of the criteria have been fulfilled. Those criteria that have not been fulfilled or not adequately described are thought unlikely to alter the conclusions.

–

Few or no criteria fulfilled. The conclusions of the study are thought likely or very likely to alter.

Study Design Designation

The study design is designated by a numerical prefix:

"1" for systematic reviews or meta-analyses or randomised controlled trials (RCTs)

"2" for cohort and case-control studies

"3" for case reports/series

"4" for expert opinion/logical arguments/"common" sense

Hierarchy of the Levels of Scientific Evidence

Each study is assigned a level of evidence by combining the design designation (1, 2, 3 or 4) and its validity rating (++, + or -). The meaning of the various â ˜levels of evidence´ are given below:

1++

High quality meta-analyses, systematic reviews of RCTs, or RCTs with a very low risk of bias.

1+

Well-conducted meta-analyses, systematic reviews, or RCTs with a low risk of bias.

1-

Meta-analyses, systematic reviews, or RCTs with a high risk of bias.

2++

High quality systematic reviews of case-control or cohort studies.

High quality case-control or cohort studies with a very low risk of confounding or bias and a high probability that the relationship is causal.

2+

Well-conducted case-control or cohort studies with a low risk of confounding or bias and a moderate probability that the relationship is causal.

2-

Case-control or cohort studies with a high risk of confounding or bias and a significant risk that the relationship is not causal.

3

Non-analytic studies e.g. case reports, case series.

4

Expert opinion.

METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

The guideline developers adopted the revised Scottish Intercollegiate Guidelines Network (SIGN 2001) procedure which gives clear guidance on evaluating the design of individual studies, grading each study´s level of evidence and assigning a grade to the recommendation after taking into account external validity, result consistency, local constraints and expert opinion. The extensive reliance on the AHRQ and JBI guidelines is acknowledged and treated as a very special case of published expert opinion.

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Categories of the Strength of Evidence Associated with the Recommendations

A

At least one meta-analysis, systematic review, or RCT rated as 1++, and directly applicable to the target population; or

A body of evidence, consisting principally of studies rated as 1+, directly applicable to the target population, and demonstrating overall consistency of results.

B

A body of evidence, including studies rated as 2++, directly applicable to the target population, and demonstrating overall consistency of results; or

Extrapolated evidence from studies rated as 1++ or 1+.

C

A body of evidence including studies rated as 2+, directly applicable to the target population and demonstrating overall consistency of results; or

Extrapolated evidence from studies rated as 2++.

D

Evidence level 3 or 4; or

Extrapolated evidence from studies rated as 2+.

Interpretation of the D/4 Grading

The grading system emphasises the quality of the experimental support underpinning each recommendation. The grading D/4 was assigned in cases where:

- it would be unreasonable to conduct a RCT because the correct practice is logically obvious
- recommendations derived from existing high quality evidence-based guidelines. The guideline developers alert the user to this special case by appending the initials of the source in the original guideline document. e.g. (D/4; Bergstrom et al 1994; JBI 1997)

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

External Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

A set of the draft guidelines was circulated to selected health-related institutions for peer review and evaluation of the validity, reliability and practicality of the recommendations.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Definitions for the grades of recommendations (A, B, C, D) and the levels of evidence (1++ to 4) are provided at the end of the Major Recommendations field.

Assessment

Guideline 1: Initial Assessment

The initial assessment of a pressure ulcer should include its location, size, stage, condition, odour, amount and type of exudate. The presence, location and extent of sinus tracts, pain and signs of infection, condition of surrounding skin, general condition and diagnosis of patient should also be assessed and documented. (D/4; Bergstrom et al., 1994; Joanna Briggs Institute for Evidence Based Nursing and Midwifery [JBI], 1997)

Guideline 2: Wound Size

The initial and subsequent outlines of the wound should be traced and dated on a clean transparent plastic material. (D/4; Bergstrom et al., 1994)

Guideline 3: Wound Depth/Length of Sinus Tract

The depth of the pressure ulcer and the length of sinus tract should be estimated by placing a sterile applicator/catheter to the deepest point. (D / 4; Lagemo et al., 1998)

Guideline 4: Staging of Pressure Ulcer

Staging of pressure ulcers using National Pressure Ulcers Advisory Panel four-level staging system. (D / 3; Bergstrom et al., 1994; Xakellis and Frantz, 1997)

Guideline 5: Re-assessment

A pressure ulcer should be re-assessed at least once a week or when the condition of the patient or wound deteriorates. (D / 4; Bergstrom et al,, 1994; JBI, 1997)

Wound Cleansing

Guideline 1: Cleansing Medium

The wound should be cleansed with solutions that are non-toxic to granulating tissue e.g. normal saline. (D / 4; Bergstrom et al., 1994; JBI, 1997)

Guideline 2: Mechanical Cleansing

Appropriate mechanical pressure/force should be used to remove non-viable tissue, excess exudate and metabolic wastes, without causing trauma to the wound bed. (D / 4; Bergstrom et al., 1994; JBI, 1997)

Debridement

Guideline 1: Choice of Debridement Method

Necrotic tissues should be debrided. The choice of debridement method should be based on the patient´s condition, treatment goal and type and amount of necrotic tissue in the wound. (D / 4; Bergstrom et al., 1994; JBI, 1997; Bradley et al., 1999)

Guideline 2: Sharp Debridement

Sharp debridement is the preferred choice when debridement is urgently indicated, e.g. advancing cellulitis or sepsis. Sharp debridement is not recommended for patients with low platelet counts or taking anti-coagulant medication or when there is a lack of clinical expertise to perform the debridement. (D / 4; Bergstrom et al., 1994; JBI, 1997)

Guideline 3: Autolytic Debridement

Autolytic debridement techniques should be used when there is no urgent clinical need for drainage or removal of devitalised tissue. It is contraindicated in infected ulcers. (D / 4; Bergstrom et al., 1994)

Dressing

Guideline 1: Moist Wound Healing

The dressing should keep the ulcer bed moist and the surrounding tissue (periulcer) skin dry. (D / 3; Bergstrom et al., 1994; Thomas et al., 1998)

Guideline 2: Choice of Dressings

The choice of wound dressings should depend on the treatment goal and the size, shape, depth, location and condition of the wound. (D / 4; Bergstrom et al., 1994)

Guideline 3: Granulating Wound

Granulating wounds should be dressed with hydrocolloid or other non-adherent dressing. (D / 4; Bergstrom et al., 1994)

Guideline 4: Exudative Wound

Exudative wounds should be dressed with highly absorbent material e.g. alginate, foam/hydrofibre or hydropolymer. (D / 3; Bergstrom et al., 1994; Hess, 2000)

Guideline 5: Eschar

Wounds with eschar should be dressed with hydrocolloid or hydrogel used together with an occlusive dressing e.g. polyurethane film. (D / 4; JBI, 1997)

Guideline 6: Sloughy Wound

Wounds with slough should be dressed with a hydrocolloid, hydrogel or alginate dressing. (D / 4; Bergstrom et al., 1994; JBI, 1997)

Guideline 7: Granulating Cavity Wound

Cavity wounds should be loosely packed with non-adherent dressings. (D / 4; Bergstrom et al., 1994)

Nutrition

Guideline 1: Nutritional Assessment

Healthcare providers should do baseline and ongoing assessment of nutritional status, appropriate interventions, and evaluation of the effectiveness of medical nutritional therapy. (D / 4; Bergstrom et al., 1994)

Psychosocial Assessment

Guideline 1: Initial Psychosocial Assessment

The nurse should perform a psychosocial assessment, including mental status, social support, medications, values and lifestyle and stressors. (D / 4; Bergstrom et al., 1994)

Guideline 2: Re-assessment

Periodic psychosocial re-assessment should be included when the wound management is reviewed. (D / 4; Bergstrom et al., 1994)

Guideline 3: Patient Education

The nurse should involve the patient and caregiver in the treatment programme. (D / 4; Bergstrom et al., 1994)

Pain

Guideline 1: Pain Management

Pain assessment and pain relief should be a high priority. (D / 4; JBI, 1997)

Definitions

Individual Study Validity Ratings

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CLINICAL ALGORITHM(S)

The original guideline document contains a clinical algorithm for the nursing management of pressure ulcers in adults.

EVIDENCE SUPPORTING THE RECOMMENDATIONS

REFERENCES SUPPORTING THE RECOMMENDATIONS

References open in a new window

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is identified and graded for each recommendation (see "Major Recommendations").

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

- Minimise pain
- Decrease complication rate
- Reduce morbidity and mortality

POTENTIAL HARMS

Complications of sharp debridement include bleeding, possible nerve damage and transient bacteraemia during debridement.

CONTRAINDICATIONS

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Sharp debridement is not recommended for patients with low platelet counts or taking anti-coagulant medication or when there is a lack of clinical expertise to perform the debridement.

Autolytic debridement is contraindicated in infected ulcers.

QUALIFYING STATEMENTS

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Recommendations are based on best available evidences at the time of guideline development. New research studies are ongoing thus the contents are subject to updates as scientific knowledge unfolds. Due to the unique variations in each individual circumstance, adopting this set of guidelines does not guarantee effective client outcomes in every instance. Practitioners must assess the appropriateness of the recommendations in the light of individual client´s condition, overall treatment goal, resource availability, institutional policies and viable treatment options before adopting any of them for their own practice.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

Implementation

It is expected that these guidelines should be adopted after discussion involving clinical staff and hospital and institution management. They may review how these guidelines may complement or be incorporated into their existing institutional protocols. Feedback may be directed to the Singapore Ministry of Health for consideration in future reviews.

Clinical Audit

Hospital and institution administrators should incorporate these guidelines in their in-house quality assurance programmes. Nurses should critically review the implications of these guidelines on their routine care, patient teaching and education needs.

Indicators

In pressure ulcer management, the indicators should include:

- frequency and quality of assessment of pressure ulcers
- assessment of pain, psychosocial and nutritional status
- use of non-toxic cleansing agents and appropriate debridement methods and dressings that are consistent with the moist wound healing paradigm.

A baseline of these measures should be established for future comparison. Institutions should set their own measurable target for each indicator. These can be included as items in the routine clinical audits. Audits can be performed on randomly selected individual episodes of care and retrospective review of recent cases.

Management Role

Hospital and institution administrators, together with quality assurance teams, should ensure that these indicators are met. Results should be documented and available for benchmarking.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better
Living with Illness

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Singapore Ministry of Health. Nursing management of pressure ulcers in adults. Singapore: Singapore Ministry of Health; 2001 Dec. 27 p. [20 references]

ADAPTATION

Two highly regarded evidence-based guidelines were reviewed:

- The Agency of Healthcare Research and Quality (AHRQ) Practice Guideline on Pressure Ulcer Treatment: Technical Report Number 15 Treating Pressure Ulcers Volume 1 (Bergstrom and Cuddigan 1994)
- Pressure Sores – Part II: Management of Pressure Related Tissue Damage from The Joanna Briggs Institute for Evidence Based Nursing & Midwifery (JBI 1997).

DATE RELEASED

2001 Dec

GUIDELINE DEVELOPER(S)

Singapore Ministry of Health - National Government Agency [Non-U.S.]

SOURCE(S) OF FUNDING

Singapore Ministry of Health

GUIDELINE COMMITTEE

MOH Nursing CPG Workgroup on Nursing Management of Pressure Ulcers in Adults

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Workgroup Members: Tan Wee King, RN, MPC, BN, Grad Dip (Nurse Teaching), MSc (Training) (Chairperson); Chen Yee Chui, RN, Cert DN, BNursing (Hons) (Secretary); Azizah Yunos, RN, Oncology Nursing Cert, Enterostoma Nursing Cert; Chong Irene, RN, BSc (Nursing), MHSM; Koh Serena, RN, RM, Adv Dip (Midwifery), BSc (Hons) Nursing Studies; Lim Hui Li, RN, BN, MSc (Health Policy and Management); Ng Toon Mae, RN, BN; Tan Gim Wah, RN, RM, Dip (Personnel Management); Tan Kwee Yuen, RN, Oncology Nursing Cert; Tang Siew Yeng, RN, RM, Dip (Management Studies), BBBA, MSc (Nursing & Education); Tay Ai Choo, RN, BHSN, Oncology Nursing Cert, Stoma Care Cert, Wound Management Cert; Yeo Soo Gim, RN, RMN, BHSN; Edwin Chan Shi-Yen BSC, BVMS, PhD, Deputy Director/Head of Evidence-based Medicine, NMRC Clinical Trials & Epidemiology Research Unit MOH (External Consultant)

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: Available in Portable Document Format (PDF) from the Singapore Ministry of Health Web site.

Print copies: Available from the Singapore Ministry of Health, College of Medicine Building, Mezzanine Floor 16 College Rd, Singapore 169854.

AVAILABILITY OF COMPANION DOCUMENTS

The following are available:

- Nursing management of pressure ulcers in adults. Quick Reference Guide. Singapore: Singapore Ministry of Health; 2001.
- Nursing management of pressure ulcers in adults. Poster version of the guideline. Singapore: Singapore Ministry of Health; 2001.

Print copies are available by writing to: Senior Professional Stanards Executive (Nursing Practice), Nursing Branch, Ministry of Health, 16 College Road, Singapore 169854

PATIENT RESOURCES

none available

NGC STATUS

This NGC summary was completed by ECRI on December 19, 2002. The information was verified by the guideline developer on January 23, 2003.

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